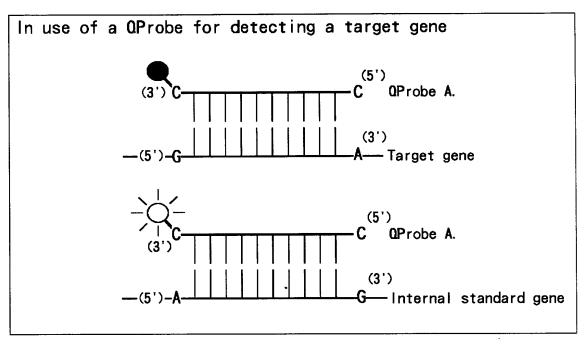
FIG. 1



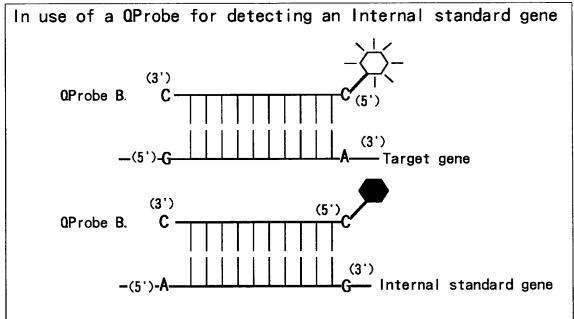
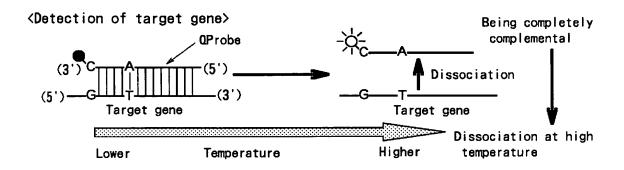
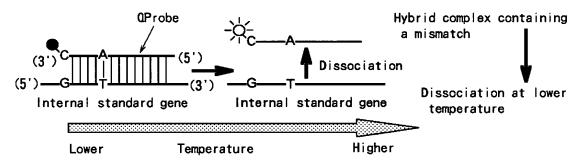
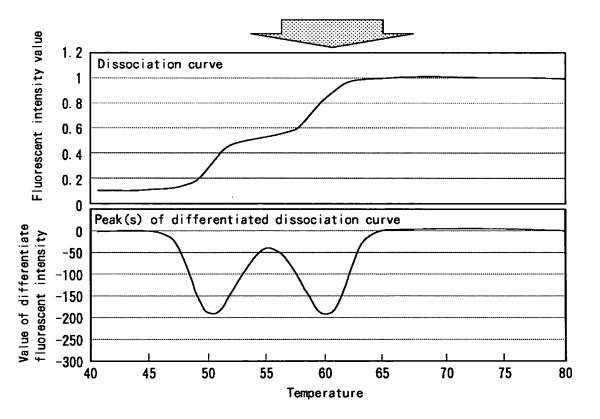


FIG. 2



# <Detection of internal standard gene>

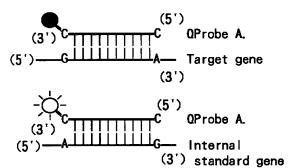




## FIG. 3

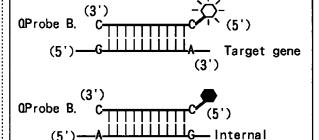
<In use of two QProbes>

In use of a QProbes for detecting a target gene



 Hybridization with an Internal standard gene results in no fluorescence-quenching.

In use of a QProbe for detecting an internal standard gene

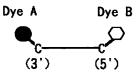


•Hybridization with a target gene results in no fluorescence-quenching.

(3') standard gene

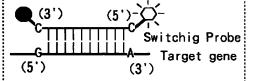
<In use of Switching QProbe>

Structure of Switching Probe

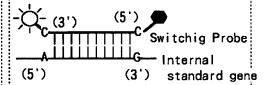


 Both end bases are cytosines
 Both ends are labeled with different dyes respectively

In hybridization with a target gene

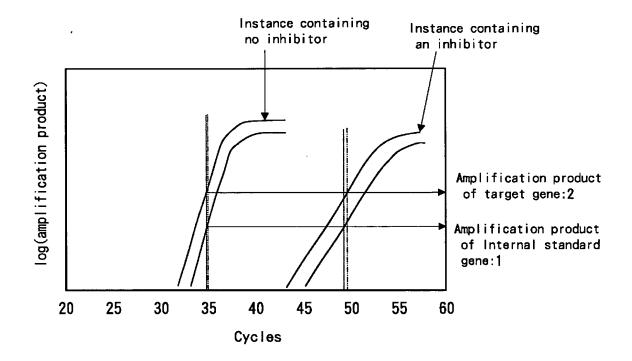


In hybridization with an Internal standard gene

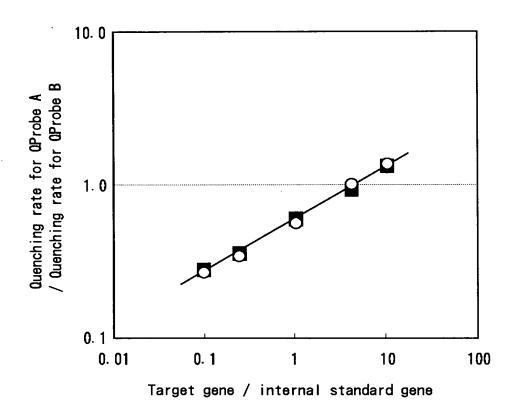


•Hybridization with either of genes results in fluorescence-quenching of dye labeling either of ends. FIG. 4

Target gene : Internal standard gene = 2:1

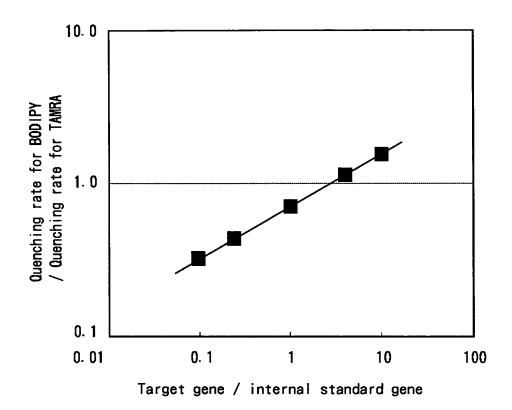


Oblon, Spivak, etal 20 703-413-3000 Docket # 292672US0X PCT Sheet 5 of 20 **FIG. 5** 



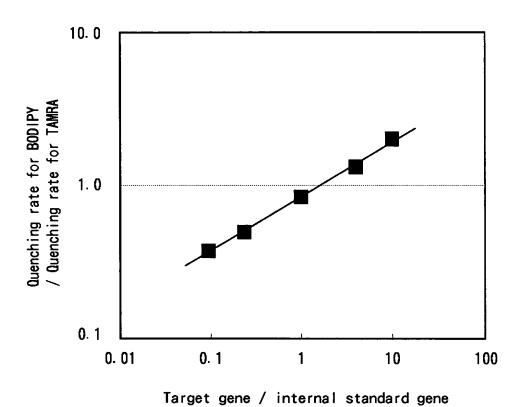
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FIG. 6



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FIG. 7



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FIG. 8

<Experimental procedures>

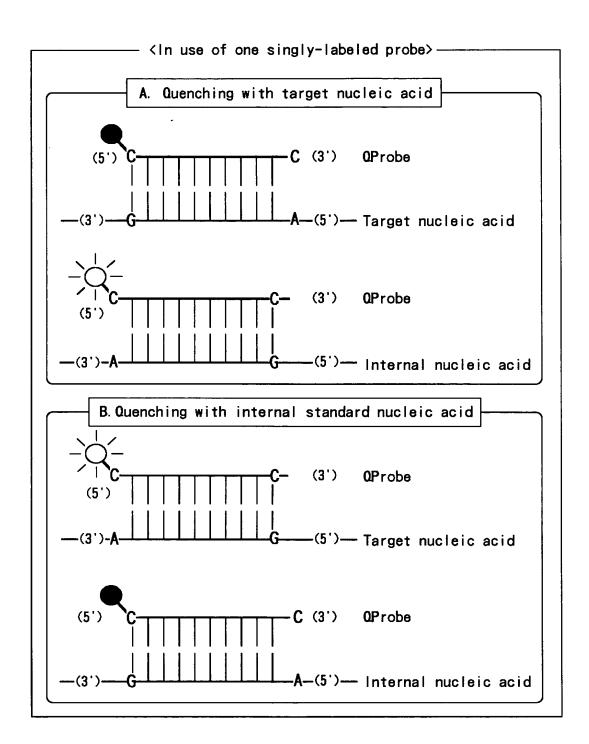
Cell tube for measuring fluorescence

Fluorescence-labeling probe

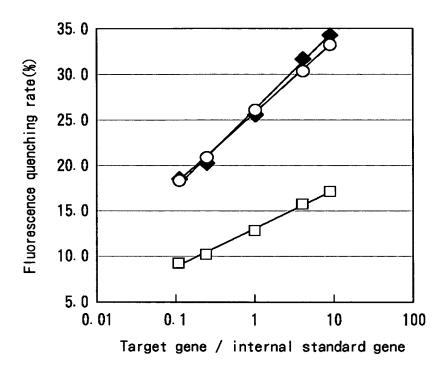
Fluorescent measurement(i)

Fluorescent measurement(ii)

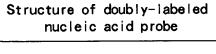
FIG. 9

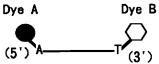


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Oblon, Spivak, et al. 703-413-3000 Docket # 292672US0X PCT Sheet 11 of 20 **FIG. 11** 



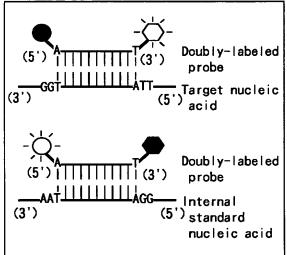


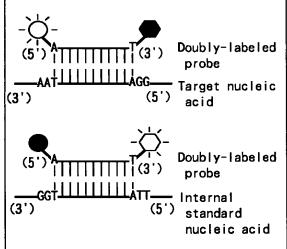
- •Bases of both ends each are bases other than G and C.
- •Both ends each are labeled with different dyes respectively.



A. Pattern indicating that fluorescence-quenching for dye A is caused with a target gene; that of dye B with an internal standard gene.

B. Pattern indicating that fluorescence-quenching for dye A is caused with an internal standard gene; that of dye B with a target gene.





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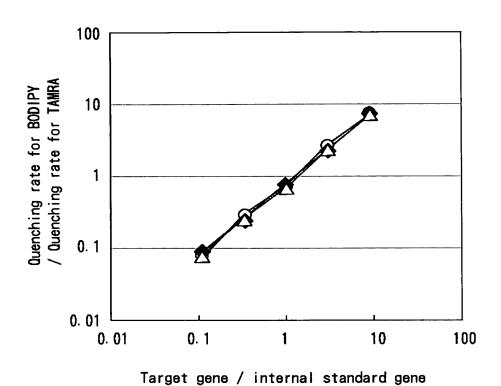
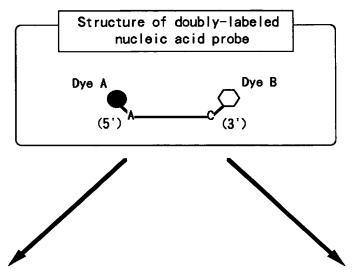
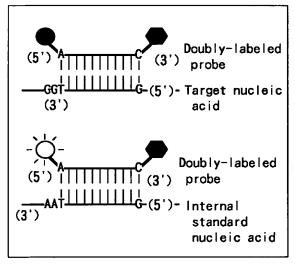


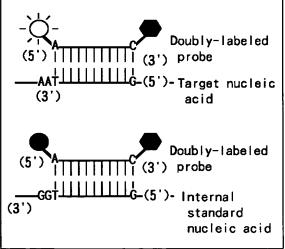
FIG. 13



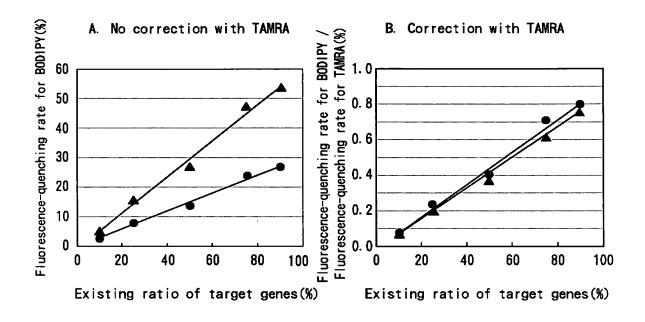
A. Pattern indicating that fluorescence-quenching for dye A is caused with a target nucleic acid; that for dye B with any nucleic acid.

B. Pattern indicating that fluorescence-quenching for dye A is caused with an internal standard gene; that for dye B with any nucleic acid.





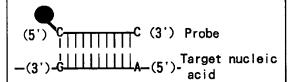
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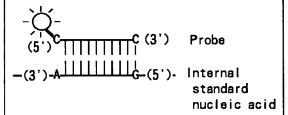
A. Probe having two fluorescent changes

B. Probe having three fluorescent changes

A. On hybridization with target nucleic acid



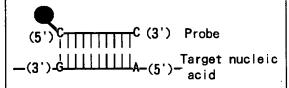
B. On hybridization with Internal standard nucleic acid



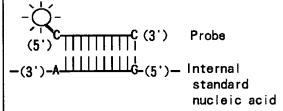
C. On no hybridization with any nucleic acid

Fluorescent intensity for dye:
Internal standard nucleic acid=
non-hybridizing probe>target nucleic
acid

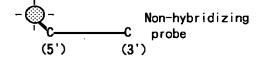
A. On hybridization with target nucleic acid



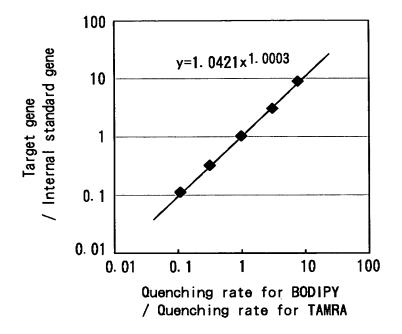
B. On hybridization with Internal standard nucleic acid



C. On no hybridization with any nucleic acid

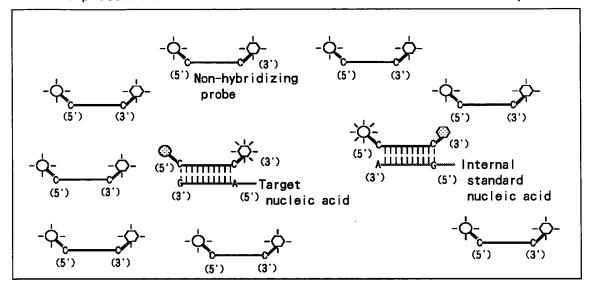


Fluorescent intensity for dye: Internal standard nucleic acid> non-hybridizing probe>target nucleic acid Oblon, Spivak, et al. 16/20 703-413-3000 Docket # 292672US0X PCT Sheet 16 of 20 **FIG. 16** 

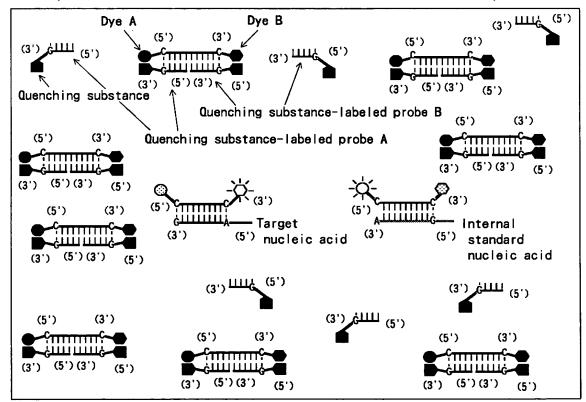


## FIG. 17

# A. In no presence of fluorescent substance-labeled nucleic acid probe



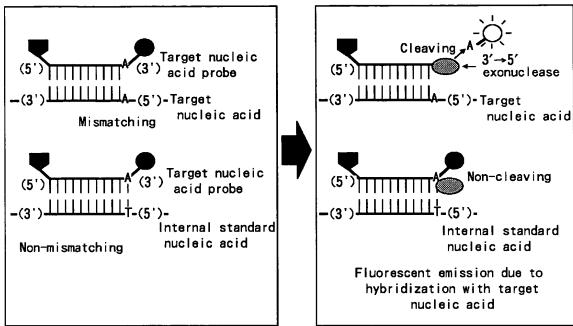
#### B. In presence of fluorescent substance-labeled nucleic acid probe



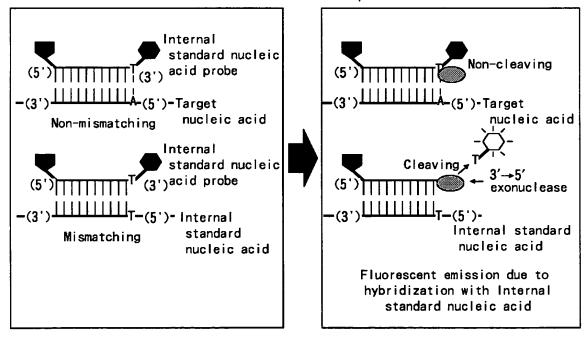
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FIG. 18

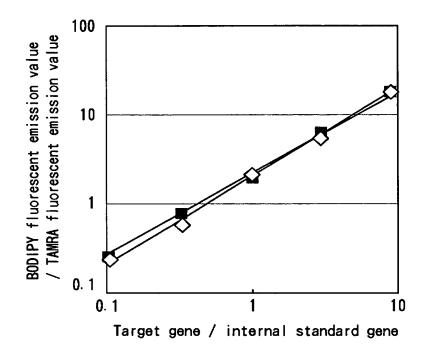
# A. In use of target nucleic acid probe



## B. In use of Internal standard nucleic acid probe



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